more detailed manner. The cradle ~~42~~32 carries a ~~transferable~~ ordnance transfer assembly 32. The ordnance transfer assembly 32 includes a transferable ordnance unit 60, such as one or more bombs attached to a pylon adapter 18. The ordnance transfer assembly 32 is firmly secured to the cradle ~~32~~ 42 by several gripping arms 61', 61''. The pylon adapter 18 includes a mechanical connector 66 to be used for insertion into a suitable opening in the pylon attached to a targeted weapon station. The pylon adapter 18 further includes several stabilizing surfaces 68', 68'', an optional multi-fusing unit 62, and appropriate electrical/data connectors (not shown). The ordnance-carriage-cradle 42 is linked to the upper arm section 38 of the mechanized arm assembly via a motorized joint 44 that provides for the planar movement of the ordnance-carriage-cradle 42. The arm section 38 further includes a camera 62 for the monitoring of the position of the cradle 42 in relation to the pylon, a drive unit 64 for imparting suitable movement to the joint 44, and a processor device 70 to provide for the automatic control of the movement of the joint 44. An additional cradle gripping arms motor 65 effects the closing of the grip arms 61', 61'' subsequent to the loading of the ordnance transfer assembly 32 into the cradle 42 and for the opening the of the cradle grip arms 61', 62'' subsequent to the securing of the ~~transferable~~ ordnance transfer assembly 32 to the pylon.

Note should be taken that the above described part of the mechanized arm assembly is exemplary only and could be entirely different in other preferred embodiments of the invention. For example, the assembly could include proximity devices, micro-switches or other sensors to provide for precise maneuvering.

The mechanized arm assembly could further carry integrated communication devices to communicate between the attached processors and the motors or between the arm-attached processors and the computers of the supplier aircraft or the computers of the receiver aircraft. The limits of the present invention will be defined by only by the attached claims.

Referring now to Fig. 4 that shows a supplier aircraft 10 and a receiver aircraft 14 during the performance of an air-to-air ordnance transfer procedure, in accordance with the second preferred embodiment of the invention. The supplier aircraft 10 and the receiver aircraft 14 are shown in-flight while maintaining a flight formation suitable for the airborne transfer of ordnance from the supplier 10 to the receiver 14. The formation involves the flying of the receiver aircraft 14 below and aft to the supplier aircraft 10. Note should be taken that the spatial relationships between the

to the ordnance-carriage-cradle 110 which is positioned on the bars 96.The ordnance-carriage-cradle 110 is coupled to an ordnance conveyor mechanism (not shown) associated with the mechanical arm assembly. The cradle 110 includes a cradle body 106, a set of ordnance unit positioning bars 93, a set of ordnance unit gripping arms 104', 104'', and a guidance boom 102. The ordnance unit 105 is positioned on the ordnance body 106 and secured firmly to the body 105 by the ordnance unit gripping arms 104', 104''. The guidance boom 102 is a hollow, hemispherical device rigidly attached to the cradle body 106. The open side of the boom 102 faces towards the pylon 98 that is installed on the receiver aircraft. When during the final phase of the approach of the mechanical arm to the receiver aircraft the arm section 91 approaches the pylon 98 the boom device 102 creates tentative contact with an elongated engagement rod 100 installed on the pylon 98. Prior to the transfer operation the engagement rod 100 is stored in a retracted position within a pre-designed cavity (not shown) in the body of the pylon 98. In order to prepare for the reception of the ordnance unit the engagement rod 100 exits the storage cavity thereof. Consequently the rod 100 is able to engage the approaching boom device 102. Since the boom 102 is rigidly mounted on the ordnance-carriage-cradle 110 and the cradle 110 is rigidly connected to the arm section 91 the movement of the ordnance transfer assembly 120 is precisely guided to an optimal position in relation to the pylon 98. When the ordnance unit 105 is in the optimal position for the purpose of uploading on the pylon 98 the ordnance positioning arms 93 are manipulated mechanically to effect the precise attachment of the ordnance unit 105 to the pylon 98. Consequently, the gripping arms 104', 104'' are opened outward in order to provide for the disconnection of the cradle 110 from the ordnance unit 105. The arm section 91 that is attached semi-rigidly to the mechanized arm is retracted and the empty ordnance-carriage-cradle 106 is impelled to move in the reverse direction (toward the supplier aircraft) guided by the guidance bars 96 where the movement is provided by the ordnance conveyor mechanism. The boom 102 looses contact with the elongated guidance bar 100. The uploading of the ordnance unit 105 to the pylon 98 is completed via a set of automated procedures such as stabilizing, optional fuzing, and the like. While the mechanical arm assembly remains extended with the distal arm section 91 in the vicinity of the receiver aircraft the ordnance-carriage-cradle 110 is driven back into the interior cargo space of the supplier aircraft along the mechanical arm assembly for the purpose of re-loading of the cradle 110 with additional